

Charge Questions for SAB Workgroup Consultation on

EPA's Concept Plan for Ambient Air Monitoring After Hurricane Katrina

September 12, 2005

1. Risk Situations Addressed

The plan identifies several situations as needing to be addressed by the post-storm monitoring program:

- *Flooded Areas*
- *Areas Damaged by Flood or Winds – Other Considerations*
- *Open Burning of Biomass, Building Debris, and Other Debris*

Are these the situations that should most receive monitoring attention?

2. Pollutants to be monitored

Are the pollutants that are the targets of the monitoring aimed at these situations appropriate?

3. Monitoring methods, equipment, and quality assurance activities

To the extent that EPA has been able to describe or reference the monitoring methods, equipment, and quality assurance activities in the document, is this appropriate? What advice do you have for EPA as we further develop the methods and equipment plans?

4. Siting

The document envisions five types of monitoring sites, but specifies the exact locations only of the second of the five listed below:

a. A mobile monitoring unit — Trace Atmospheric Gas Analyzer (TAGA) — is already in operation in New Orleans for purposes of addressing the first of the risk situations described in the first question above.

b. The pre-storm, state-operated monitoring sites in New Orleans and the coast of Mississippi. These would be restored to their original capabilities, plus some sites in New Orleans would be enhanced with additional (but conventional) capability, mostly but not exclusively to better address PM.

c. A “ring” of up to ten fixed-site PM_{2.5} monitoring locations between the evacuated area of New Orleans and outlying populated areas. About half of these would have collocated PM₁₀ samplers also. These sites are intended to provide information on metals that may be released from burning and other activities in New Orleans and be transported to downwind areas.

d. Three fixed-site gas and particle air toxics monitoring sites. One would be collocated with one of the ring sites. The other two would be placed downwind of open burning facilities elsewhere.

e. Three or more portable PM_{2.5} continuous monitors that would be used to “chase plumes” from selected open burning facilities.

Are the pre-storm state-operated sites and the proposed samplers for each (as listed in the footnote on page 4 of the draft plan) likely to be relevant to monitoring the air quality aftermath of the storm itself and of the recovery efforts, if they can begin operation about three or four weeks? Should this restoration be lower or higher priority than establishing the burning-oriented monitoring sites?

What advice do you have for siting the three fixed air toxics sites so that they will succeed in characterizing the constituents of the smoke from the burning facilities and their relative concentrations? How far downwind should they be?

The plan proposes that the portable PM_{2.5} monitors be placed in the predicted plume path each day, at a variety of downwind distances. What range of distances should be used? Is the concept of using PM_{2.5} concentrations from one of these portable monitors (which is intended to be in the center of the plume each day) along with the PM_{2.5} measurements at the associated fixed air toxics site (which may be off the center line of the plume some days or even outside the plume entirely) and meteorology data to estimate air toxics concentrations at the location of the portable PM_{2.5} monitor workable? Is the PM_{2.5} concentration alone likely to be valuable information, if no meaningful estimates of specific air toxics can be made using this scheme?

5. Trajectory predictions

The HYSPLIT4 (HYbrid Single-Particle Lagrangian Integrated Trajectory model) tool provided by NOAA has the advantage of being well known and accessible. Is it suitable for providing estimates of the likely path of the ground-level impact of the plume from burning facilities of interest? How far downwind (in terms of miles or hours of transport) should trajectories be displayed for? Is there another approach that should be considered as a way to meet the objective of giving state/local agencies information on likely plume path so that they may inform the public if they choose?